Embedded Automation & Cloud Application

EBOX-AIO-003 Multi-I/O IoT-Application Controller

- ☑ ARM® Cortex®-A7 64-bit multi-core RISC low power consumption
- ☑ 9~24VDC Working Power Input
- ☑ 1-ch 100Mbps Ethernet Communication Interface
- ☑ 1-ch RS-485 (or RS-232) serial equipment data transmission communication
- ☑ 12 Digital Input/ Output Control Points (GPIO)
- ☑ With RTC Chip and Battery Holder
- ☑ With Simple Human Control Interface
- ☑ Embedded Linux Operating System

Product Features

⊠ ARM® Cortex®-A7 RISC low power consumption architecture, high stability

EBox-AIO-003 adopts 1.2-GHz ARM Cortex®-A7 64-Bit 4-core RISC Processor, with 512MB DDR3 SDRAM、8GB eMMC as system core，With built-in 4.14.x embedded Linux operating system，it is suitable for low power consumption and high communication performance requirements for industrial automation applications。

⊠ Multifunctional communication

EBox-AIO-003 has 1 set of Ethernet interfaces and 802.11 Wi-Fi or 3/4G wireless network interface expandable via USB interface to make network communication seamless。

EBox-AIO-003 has 1 set of 115.2Kbps high-speed RS-485 serial port interface with ability to connect 128 multi-drop nodes, allowing EBox-AIO-003 to easily connect all kinds of monitoring equipment and meters。

⊠ Complete digital signal control interface(Digital I/O)

EBox-AIO-003 has 12-point GPIO digital control signal interface which could be set as Digital Input or Digital Output through the program to be used with a variety of I / O adapter board, easy to reach the proximal control applications。

⊠ Simple and easy human machine interface

EBox-AIO-003 includes a DIP Switch, Tack Button etc. input determining function, and simple sound and light effects such as LED and Beeper that can be controlled by process, allowing developers to set system operation mode and display system operation in the simplest way.

⊠ Suitable for database and webpage monitoring applications

EBox-AIO-003 has built-in MySQL Database for users to set up、record and exchange status message via database framework。 It can also work with common PHP/Java Script to easily accomplish remote monitoring system development。

⊠ Suitable for various High-level programming language

With built-in Linux 4.14.x embedded Linux operating system，EBox-AIO-003 supports the most recent popular High-level programming language, such as Python、Java，Scratch，Node J…etc， allowing developers to set up or porting applications in EBox-AIO-003 rapidly。It also supports traditional C/C++ programs for those applications need to process lower level and higher speed I/O action or response。

外觀示意圖

(Top View)

(Rear View)

(Lateral View)

(DK-P01)

(DK-A01)

30 x30 mm DC-5V FAN

Product specifications

Hardware

Core
▷ CPU：Allwinner H3 1.2GHz (Cortex®-A7)

▷ Memory：512MB DDR3 SDRAM、8GMB eMMC Flash

Network Interface
▷ Quantity：1 Set

▷ Type：10/100BaseT Ethernet

▷ Connector：RJ45

RS-485 Modbus-RTU Interface
▷ Quantity：1

▷ RS-485 Signal：Data+, Data-, GND
   (Support Auto Data Direction Control)

▷ Multi-Drop Nodes : 128 (1/4 Load)

▷ Built-in Terminal Resistor：120/600Ω，By DIP Switch

▷ Pull High/Low Resistor：1K/10KΩ，By DIP Switch

▷ Protection：15KV ESD static protection, 400W Surge protection

▷ Connector：5.00mm 3-pin pluggable Terminal block

RS-232 Console Interface
▷ Quantity：1

▷ Signal：RS-232 (TxD, RxD, GND)

▷ Connector：3-pin 2.54 mm contact

RS-232 Serial Port Interface (Non-standard, by request)
▷ Quantity：1 Set

▷ Signal：TxD, RxD, GND

▷ Protection：15KV ESD Static，400W Surge Protection

▷ Connector：5.00mm 3-pin pluggable Terminal block

USB Interface
▷ Quantity：1 Set

▷ Type：USB 2.0

▷ Connector：Single (Type A)

SD Expansion Interface
▷ Quantity：1 Set (need to open the case)

▷ Connector：Micro SD Slot

Digital Control (GPIO)
▷ Points：19

▷ Signal Type：3.3V CMOS

▷ 2.54mm simple box header x 12 GPIO

▷ DIP Switch x 2 GPIO

▷ Tack Button x 1 GPIO

▷ Beeper x 1 GPIO

▷ LED x 3 GPIO

Human Interface
▷ LED indicator：power, network, serial port, user defined

▷ Buzzer：1

Mechanism
▷ Size：130 x 90 x 33 mm (incl. fix boarder)

▷ Material：galvanized steel sheet

Power
▷ Working Voltage：DC 9-24VDC

▷ Power Connector：5.00mm pluggable terminal block

▷ Power Consumption：< 10W (not include USB device)

▷ DC Output for FAN：5V (0.1A max.) 2.54 mm 3-pin contact

Others
▷ Real Time Clock (RTC)：1

▷ Real Time Clock Battery Holder：CR1220

▷ Applicable temperature：-20~70℃

▷ Applicable humidity：20%~80% RHG

▷ Certification：CE, FCC

Software

Core
▷ OS: Linux kernel 4.14.x

Pre-Installed Services
▷ SSH terminal server, Web server , MySQL, PHP, Python, gcc, apt-get, lld-IP searched

Purchasing information

▷ **EBOX-AIO-003**　　　Multi-I/O　IoT-Application　Controller

　　　　　　　　　　Content：　EBOX-AIO-003　，　QIG x 1

Non-standard Customization Model no.

▷ **EBOX-AIO-003(232)**　　Multi-I/O IoT-Application　Controller　(w/ RS-232 x 1)

(LLD-M13)

Optional Accessories

▷ **LLD-M13**　　5-ch Isolated Digital Input (4-ch Dry +1-ch Wet)，4-ch C-Type Relay Output I/O Expanding Module

▷ **CD12V**　　　100~240V AC to 12VDC Power Adapter (US Type)

▷ **DK-A01**　　　3-fix points aluminum DIN-Rail Kit

▷ **DK-P01**　　　Plastic DIN-Rail Kit